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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,418	07/10/2007	Roderick Scott	68449.000002	1757
21967 7590 03/16/2010 HUNTON & WILLIAMS LLP INTELLECTUAL PROPERTY DEPARTMENT 1900 K STREET, N.W. SUITE 1200 WASHINGTON, DC 20006-1109			EXAMINER COLLINS, CYNTHIA E	
			ART UNIT 1638	PAPER NUMBER
			MAIL DATE 03/16/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/591,418

**Applicant(s)**

SCOTT, RODERICK

**Examiner**

Cynthia Collins

**Art Unit**

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 December 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) See Continuation Sheet is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2, 45, 46, 77, 126 and 127 is/are rejected.
- 7) ☒ Claim(s) 46 and 127 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-846)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 6/1/08
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

Continuation of Disposition of Claims: Claims pending in the application are 1-5,10,20,22,25,26,28-31,34-70,72,74-80,85,95,97,98,100,103-105,109,113-151,153 and 155-165.

Continuation of Disposition of Claims: Claims **withdrawn** from consideration are 1,3-5,10,20,22,25,26,28-31,34-44,47-70,72,74-76,78-80,85,95,97,98,100,103-105,109,113-125,128-151,153 and 155-165.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election without traverse of the restricted subject matter of Group XXXI, claims 45-46 and 127, drawn to a method of claim 2 in which the gene is MNT or its orthologues, and a plant according to claim 77, in the reply filed on December 2, 2009 is acknowledged. Claims 2, 45, 46, 77, 126 and 127 are examined. Claims 1, 3-5, 10, 20, 22, 25, 26, 28-31, 34-44, 47-70, 72, 74-76, 78-80, 85, 95, 97, 98, 100, 103-105, 109, 113-125, 128-151, 153 and 155-165 are withdrawn from consideration as being directed to nonelected inventions.

### ***Drawings***

The drawings are objected to because they do not comply with the requirements of 37 CFR 1.821-1.185, which requires that reference be made to a sequence by use of the sequence identifier, preceded by "SEQ ID NO:" in the text of the description, even if the sequence is also embedded. In the instant case Figures 6, 7, 8 and 9 have embedded sequences. See MPEP 2422.02 which indicates that "... when a sequence is presented in a drawing, regardless of the format or the manner of presentation of that sequence in the drawing, the sequence must still be included in the Sequence Listing and the sequence identifier ("SEQ ID NO:X") must be used, either in the drawing or in the Brief Description of the Drawings."

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The disclosure is objected to because it contains an embedded hyperlink and/or other form of browser-executable code. See, e.g., pages 23 and 33. Applicant is required to delete the embedded hyperlink and/or other form of browser-executable code. See MPEP § 608.01

The disclosure is objected to because of the following informalities: the disclosure does not comply with the requirements of 37 CFR 1.821-1.185, which requires that reference be made to a sequence by use of the sequence identifier, preceded by "SEQ ID NO:" in the text of the description or claims, even if the sequence is also embedded in the text of the description or claims of the patent application. See, e.g., pages 33 and 45. Appropriate correction is required.

#### ***Claim Objections***

Claims 46 and 127 are objected to because of the following informalities: the claims are directed to nonelected inventions (*IPT1* and *ARGOS*). Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

Claims 45 and 126, and claims 46 and 127 dependent thereon, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 45 and 126 are indefinite in the recitation of "derived from a gene". It is unclear what types of nucleic acid sequences are encompassed by the claims, because it is unclear what would or would not be present in the gene's derivative.

Claims 46 and 127 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are the identifying features of a gene that is *MNT* or its orthologues. The expression or transcription product of the gene is essential to perform the function of directly or indirectly modulating cell proliferation, but “*MNT*” is an arbitrary acronym that was not known or recognized by those in the art at the time of filing.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 2, 45, 77 and 126 are rejected under 35 U.S.C. 102(e) as being anticipated by Harada et al. (U.S. Patent No. 7,612,253, issued November 3, 2009 and filed as a continuation of US 10/177,029 filed June 21, 2002).

Claim 2 is drawn to a method of modifying cell proliferation in a plant which comprises the step of transforming a plant, or plant propagating material, with a nucleic acid molecule comprising at least one regulatory sequence capable of directing expression within the

integuments and/or seed coat of at least one nucleic acid sequence whose expression or transcription product is capable of directly or indirectly modulating cell proliferation.

Claim 45 is drawn to a method according to claim 2 in which the nucleic acid sequence includes or is derived from a gene involved in hormone response, biosynthesis, translocation, or other aspects of hormone action.

Claim 77 is drawn to a plant which includes a nucleic acid molecule comprising at least one regulatory sequence capable of directing expression within the integuments and/or seed coat of at least one nucleic acid sequence whose expression or transcription product is capable of directly or indirectly modulating cell proliferation.

Claim 126 is drawn to a plant according to claim 77 in which the nucleic acid sequence includes or is derived from a gene involved in hormone response, biosynthesis, translocation, or other aspects of hormone action.

Harada et al. teach a method which comprises the step of transforming a plant, or plant propagating material, with a nucleic acid molecule comprising at least one 35S promoter regulatory sequence capable of directing expression of at least one nucleic acid sequence encoding a FUS3 protein (column 23-24; column 67 claim 6). The expression or transcription product of the nucleic acid sequence encoding a FUS3 protein is capable of directly or indirectly modulating cell proliferation because ovules of plants transgenic for FUS3 increased in size indicating the induction of ovule growth and proliferation (column 24). The nucleic acid sequence encoding a FUS3 protein includes or is derived from a gene involved in hormone response, biosynthesis, translocation, or other aspects of hormone action because seedlings transgenic for FUS3 can be obtained on hormone-free medium, and because FUS3 is disclosed

as altering cytokinin related processes (column 2; column 8; column 23). Harada et al. also teach a transgenic plant produced by said method (columns 23-24). The 35S promoter used to express FUS3 in the transgenic plants is capable of directing expression within the integuments and/or seed coat because the 35S promoter is a constitutive promoter and is thus capable of expression in all types of plant tissues. See, e.g., McBride et al. , U.S. Patent No. 6,222,097 issued April 24, 2001, who teach 35S promoter expression in integuments at column 17 lines 5-14.

Claims 2, 45, 46, 77, 126 and 127 are rejected under 35 U.S.C. 102(b) as being anticipated by Tiwari et al. (The roles of auxin response factor domains in auxin-responsive transcription. The Plant Cell, Vol. 15, 533-543, February 2003).

Claim 2 is drawn to a method of modifying cell proliferation in a plant which comprises the step of transforming a plant, or plant propagating material, with a nucleic acid molecule comprising at least one regulatory sequence capable of directing expression within the integuments and/or seed coat of at least one nucleic acid sequence whose expression or transcription product is capable of directly or indirectly modulating cell proliferation.

Claim 45 is drawn to a method according to claim 2 in which the nucleic acid sequence includes or is derived from a gene involved in hormone response, biosynthesis, translocation, or other aspects of hormone action.

Claim 46 is drawn to a method according to claim 45 in which the gene is *MNT* or its orthologues.

Claim 77 is drawn to a plant which includes a nucleic acid molecule comprising at least one regulatory sequence capable of directing expression within the integuments and/or seed coat

of at least one nucleic acid sequence whose expression or transcription product is capable of directly or indirectly modulating cell proliferation.

Claim 126 is drawn to a plant according to claim 77 in which the nucleic acid sequence includes or is derived from a gene involved in hormone response, biosynthesis, translocation, or other aspects of hormone action.

Claim 127 is drawn to a plant according to claim 126 in which the gene is *MNT* or its orthologues.

Tiwari et al. teach a method comprising the step of transforming carrot cells with a nucleic acid molecule comprising at least one 35S promoter regulatory sequence capable of directing expression of at least one nucleic acid sequence that includes or is derived from the auxin response factor 2 (ARF2) gene (page 534 Figure 1; page 542 column 1). The auxin response factor 2 (ARF2) gene is the same as the *MNT* gene, as set forth at page 33 of the specification. Tiwari et al. also teach a transgenic carrot cells produced by said method (page 534 Figure 1; page 542 column 1). The carrot cells are a plant within the meaning set forth in the specification at page 9. The 35S promoter used to express ARF2 in the carrot cells is capable of directing expression within the integuments and/or seed coat because the 35S promoter is a constitutive promoter and is thus capable of expression in all types of plant tissues. See, e.g., McBride et al. , U.S. Patent No. 6,222,097 issued April 24, 2001, who teach 35S promoter expression in integuments at column 17 lines 5-14.

***Remarks***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cynthia Collins/  
Primary Examiner, Art Unit 1638

CC